

which some of the more sensitive topics are discussed will be welcomed by teachers and students alike. This book, written in a lucid style for high school students, contains numerous photographs, drawings, and cartoons. Each chapter contains one or more "Worth Doings"—activities that relate to the student, school, and community. Discussion questions follow each major part of a chapter.

Masculinity and Femininity should also appeal to parents of teen-agers, as well as to teachers: it contains insights into sexual attitudes of adolescents. The biology teacher will find the chapters dealing with human reproduction and genetics particularly interesting and useful; here the authors have carefully described both the anatomy and physiology of the reproductive system and have included many drawings, pictures, and charts.

I predict this book will find immediate success in high school and perhaps junior high curricula. I recommend it to any teacher involved in teaching some phase of adolescent behavior.

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THE CONTEMPORARY SCENE, ed. by Paul B. Weisz. 1970. McGraw-Hill Book Co., New York. 370 p. \$3.95.

The Contemporary Scene is designed to aid in the search for a better perspective in this era of tremendous social change. The book consists of readings from the works of many well-known authors, and their contributions have been grouped together in five sections: man's nature; diversity; behavior; society; and environment. The material cuts across several disciplines. Editorial comment has been kept to a minimum.

The part on man's nature traces the probable evolution of man from the first small placental mammals. There are accounts of anatomic developments, including stereoscopic vision, bipedal carriage, forelimbs into hands and arms, larger brains, and the rise of manipulative skills. Ultimately, sociologic aspects, such as hunting, banding together, call systems and communications, family, competition, and hereditary and environmental influences, became a part of the evolutionary developments. In the section on man's diversity, race is defined on the basis of the frequency of some of the genes in the population rather than in terms of the sociologic, psychologic, and physical factors used by many in their attempts to validate unsound research. The section on racial differences and hatreds should be "must" reading for anyone who has not been able to arrive at a clear-cut understanding of why the terms Negro, colored, and white cannot be used to classify people.

The remaining parts of the book seem to be more in line with what is generally accepted today in various disciplines. Behavior is set forth as an outcome of the interplay of heredity and environment. Man's behavior is studied from infancy to adult groups, with attention to cultural institutions and sexuality. The part on society sets forth ideas about the social individual and his interactions. Social groups and the aggressiveness that may disrupt a society are treated next. Finally, fundamental attitudes are examined in terms of their being applied to the improvement of our lives. The last section is given over to treatment of the all-inclusive topic of the day: the environment. This is viewed both physically and sociologically.

The book is recommended to anyone who wishes to correlate and make more meaningful the relationships between the physical and sociologic aspects of current environmental problems. I consider it a valid commentary on what many have defined as a dilemma of catastrophic proportions. A secondary-school teacher could use this book for basic information and supplemental data.

Paul L. Brown
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THE SEXES, by Donald E. Carr. 1970. Doubleday & Co., Garden City, N.Y. 252 p. \$6.95.

Written by a research chemist, this book is a popular account of sexual reproduction. It is a potpourri that keeps the reader wading through routine and well-known biologic principles to catch the numerous anthropomorphisms, gratuitous comments, hyperbolic use of adjectives and adverbs, and little parenthetical remarks about sexual trivia. The book is not scientifically acceptable. It does, however, indicate the author's diverse reading habits.

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Microbiology

MICROBIOLOGY: AN INTRODUCTION TO PROTISTS, by J. S. Poindexter. 1971. Macmillan Co., New York. 582 p. \$10.95.

This is a curious offering of the facts of microbial life. The relatively common descriptive aspects of microbiology—namely, the presentation of the major groups of protists—occupies about half of the book. The treatment of this material is competent, although the organization is somewhat peculiar. A section on cellular organization and one on the divisions of the microbial world seem to be naturally sequential, but Poindexter interrupts the flow with a

section on growth that neither springs from what preceded it nor leads to what follows.

Chapters on eucaryotes, procaryotes, and viruses are each followed by a block of excellent electronmicrographs. This alternation of narrative and pictures is effective, although a more sophisticated textual treatment would do better justice to the fine illustrations.

The major problem with this book is that, in the attempt to present material that is comprehensible to those who are not destined for careers in biology, many of the most interesting aspects of microbial existence have been dealt with inadequately. Features such as growth, nutrition, and regulation are so fundamental to the understanding of biology that they must be treated in a more rigorous fashion. The many details of microbial metabolism, which are only outlined or summarized in this book, are the very things that make microorganisms interesting. It is possible to present complex and sophisticated material in a way that is fascinating and of great value to the non-professional. In this book Poindexter has pulled her punches; and though there is much of value in it, it does not succeed as a convincing and engaging presentation of microbiology.

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Microtechniques

MICROTECHNIQUES: A LABORATORY GUIDE, by Ruth L. Willey. 1971. Macmillan Co., New York. 170 p. \$3.95 (softback).

This concise manual presents the basics of tissue preparation, staining, and mounting. It is intended for use as a textbook in a standard microtechnique course of 10 weeks' duration but could be adapted to a 15-week course.

A great deal of experience and thought has gone into the preparation of the book, particularly in the detailed day-by-day schedules for tissue treatment and directions for tissue processing. A section on fixation discusses the best fixatives for various tissues, giving formulas and information on their good and bad points. The pertinent aspects of tissue-embedding, employing paraffin, celloidin, and gelatin, receive excellent coverage. To help alleviate the problems encountered in microtomy, the author has included a chapter on the use of rotary, sliding, cryostat, and freezing microtomes. A discussion of sectioning problems and their solutions is an integral part of the chapter.

Most of the standard stain techniques and formulas for stain solutions are included. An entire chapter is devoted to

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whole mounts, blood smears, and the maceration of various plant and animal tissues. Up to this point the book was well planned and could serve as a suitable text for a basic microtechnique course.

If the book has a weakness, it is the last chapter, which is divided into two unrelated sections. The first deals with criteria for the student to use in judging his slides—a section that might well have been expanded. The second deals with cell ultrastructure; it was included to give the student “a correlative background for histological analysis.” However, because of their scant number and poor reproduction, the electron-micrographs really do not serve their intended purpose. If this section is to be used, it will have to be heavily supplemented by the instructor.

Ronald P. Hathaway
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Philosophy

BIOPHILOSOPHY, by Bernhard Rensch. 1971. Columbia University Press, New York. 388 p. \$12.50.

Bernhard Rensch has produced a thought-provoking analysis of biologic knowledge and philosophic concepts in presenting a philosophy of life. The book was written for philosophers and biologists in an attempt to do justice both to the epistemologic demands of the philosopher and to the realism of the scientist.

Rensch approaches the task from the perspective of a biologist who has conducted original research in evolutionary biology, in comparative anatomy and neurology, and in animal behavior. And he is no dabbler in philosophy, as the depth and breadth of scholarship

brought to this work clearly show.

Biologists will find the first half of the book more familiar, but perhaps less stimulating, than the latter half. The first half is devoted to an examination of the characteristics of life and to a causal analysis of life processes. The writer's purpose in the first section is to “open [the work] with a discussion of entirely ‘factual’ statements about life processes.” This introduction provides the basis for the development of a comprehensive biophilosophic viewpoint, which includes problems of psychic phenomena within its scope.

Of greatest interest to me was Rensch's monistic synthesis, which successfully avoids such dualisms as living-nonliving, mind-body, and body-soul.

A brief review cannot do justice to the comprehensive discussion developed by the author, but a brief summary may assist many biologists and biology teachers to decide if they wish to study this difficult but stimulating work.

Rensch argues that all “matter” is protopsychic in character. Elementary particles acquire new relationships and new properties when they combine to form atoms; similarly, molecules acquire properties not found in separate atoms. Sensations and recollections become possible at the complex structural level at which nerve cells develop. Once nerve cells have combined to form more complex nerve-centers, a stream of consciousness can come into being and the organism can “experience” sensations as phenomena. Human self-consciousness represents the highest phylogenetic stage yet reached: it enables logical thought-processes to arrive at an understanding of the universe.

Rensch finds no evidence to support a sudden emergence of psychic elements as something new in phylogeny.

The evolution of life from lifeless matter suggests to him that molecules, atoms, and elementary particles are protopsychologic in character.

In his concluding chapters, Rensch deals with problems of free will and determinism, and he examines the ethical consequences of his biophilosophy and the relations of biophilosophy to religious philosophy.

A careful study of *Biophilosophy* may assist readers of *ABT* to make more critical distinctions among scientific, philosophic, and (to a more limited extent) religious arguments. Such critical skills would have served readers well in dealing, for example, with discussions of neo-Darwinism.

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Textbooks

BIOLOGY: A SEARCH FOR ORDER IN COMPLEXITY, ed. by John N. Moore and Harold Schultz Slusher for the Creation Research Society. 1970. Zondervan Publishing House, Grand Rapids, Mich. 548 p. \$7.95.

(Because of the controversial nature of this textbook, it is reviewed here from two points of view: that of a secondary-school teacher of biology and that of a specialist in biology-teaching methods.—Editor.)

In some respects, this book is a typical high school biology textbook. As in contemporary works, the format is exceedingly standard even if its presentation is not. It is interesting to note that subjects with which secondary